

CHAPTER 3 SECTION 15.4

STEREOTACTIC RADIOSURGERY/RADIOTHERAPY

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I. CPT¹ PROCEDURE CODES

61793, 77427, 77432, 77520, 77523

II. DESCRIPTION

A. Stereotactic radiosurgery/radiotherapy is a method of delivering ionizing radiation to small intracranial targets. Stereotactic radiosurgery entails delivering a high dose in a single session. Stereotactic radiotherapy entails fractionating the dose over a number of treatments.

B. There are three main variations of stereotactic radiosurgery/radiotherapy: gamma beam or gamma knife, linear accelerator (linac), and charged particle beam (proton or helium ion). The three radiation delivery devices differ technically in several ways: source of radiation, size and shape of the radiation field, and range of radiation dosages.

C. The radiosurgical/radiotherapy procedure is preceded by a process of localizing the target, which can be performed with one or more of the following techniques: skull x-ray, cerebral angiography, computerized tomography, or magnetic resonance imaging.

III. POLICY

A. Gamma knife radiosurgery/radiotherapy is covered for the following indications. This list of conditions is not all inclusive. Those conditions for which reliable evidence supports that the treatment is safe, effective, and comparable or superior to standard care, (proven) are also covered.

1. Arteriovenous malformations.
2. Benign brain tumors.
3. Acoustic neuromas (vestibular Schwannomas)

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4. Pituitary adenomas.
5. Craniopharyngiomas.
6. Other tumors of the skull base.
7. Pineal region tumors.
8. Metastatic brain tumors.
9. High grade gliomas (glioblastoma multiforme, anaplastic astrocytomas).

B. Linear accelerator radiosurgery/radiotherapy is covered for the following indications. This list of conditions is not all inclusive. Those conditions for which reliable evidence supports that the treatment is safe, effective, and comparable or superior to standard care (proven) are also covered.

1. Arteriovenous malformations.
2. Acoustic neuromas (vestibular Schwannomas).
3. Metastatic brain tumors.

C. Proton beam radiosurgery/radiotherapy **may be considered for cost-sharing** for the following indications. This list of conditions is not all inclusive. **Proton beam radiosurgery/radiotherapy is covered for other conditions when medically necessary and appropriate and when conventional radiotherapy is contraindicated.**

1. Arteriovenous malformations.
2. Cushing's disease or acromegaly caused by pituitary microadenomas.
3. As postoperative therapy in patients who have undergone biopsy or partial resection of the chordoma or low grade (I or II) chondrosarcoma of the basisphenoid region (skull-base chordoma or chondrosarcoma) or cervical spine.
4. As primary therapy for patients with uveal melanoma, with no evidence of metastasis or extrascleral extension, and with tumors up to 22 mm in largest diameter and 14 mm in height.
5. Prostate cancer.
6. Meningioma.
7. Low grade glioma (astrocytoma, grade I-II).
8. **Glioblastoma multiforme.**
9. **Soft tissue sarcoma (liposarcoma).**

10. Hodgkin's disease when conventional radiotherapy is contraindicated.

11. Acoustic neuromas.

12. Juvenile nasopharyngeal angiofibroma when provided as adjuvant therapy after failure of surgery or for extensive intracranial extension.

D. Helium ion beam radiosurgery/radiotherapy is covered for the following indications. This list of conditions is not all inclusive. Those conditions for which reliable evidence supports that the treatment is safe, effective, and comparable or superior to standard care (proven) are also covered.

1. As primary therapy for patients with melanoma of the uveal tract, with no evidence of metastasis or extrascleral extension, and with tumors up to 24 mm in largest diameter and 14 mm in height.

2. As postoperative therapy in patients who have undergone biopsy or partial resection of the chordoma or low grade (I or II) chondrosarcoma of the basisphenoid region (skull-base chordoma or chondrosarcoma) or cervical spine.

E. Extracranial stereotactic radiosurgery/radiotherapy is covered for primary and metastatic lung carcinoma.

F. Frameless stereotaxy (neuronavigation) is covered for the following indications. This list is not all inclusive. Those indications for which this procedure can be documented as medically necessary, appropriate, and the standard of medical care may also be cost-shared.

1. Localization, surgical planning and guidance for intracranial tumors, skull base tumors, metastatic brain tumors, AVMs, cavernomas, chordomas, and pituitary adenomas.

2. Biopsy guidance.

3. Cerebrospinal fluid shunt placement.

4. Surgery for intractable epilepsy.

5. Spinal surgery.

G. The frameless stereotaxy device must be FDA-approved. The following devices are FDA-approved: StealthStation System, The Operating Arm, ISG Viewing Wand, MKM System, and Philips Easyguide. Other systems which are FDA-approved are also covered.

IV. EXCLUSIONS

A. Proton radiosurgery is considered unproven for ependymoma.

B. Helium ion beam radiosurgery/radiotherapy is considered unproven for the following indications:

1. Arteriovenous malformations.

2. Ependymoma.

V. EFFECTIVE DATES

A. February 26, 1986, for proton beam radiosurgery/radiation therapy for arteriovenous malformations.

B. March 1, 1988, for proton beam radiosurgery/radiation therapy for patients with Cushing's disease or acromegaly caused by pituitary microadenoma.

C. October 6, 1988, for gamma beam (gamma knife) radiosurgery/radiation therapy for treatment of arteriovenous malformation, benign brain tumors, acoustic neuromas, pituitary adenomas, craniopharyngiomas, other tumors of the posterior fossa and pineal region tumors.

D. January 1, 1990, for proton beam radiosurgery/radiation therapy for soft tissue sarcoma (liposarcoma).

E. June 18, 1990, for proton beam radiosurgery/radiation therapy for chordomas or chondrosarcomas.

F. January 1, 1994, for gamma beam (gamma knife) and linear accelerator radiosurgery/radiation therapy for metastatic brain tumors.

G. January 1, 1996, for helium ion beam radiosurgery/radiation therapy for uveal melanoma and chordomas or chondrosarcomas.

H. January 1, 1996, for proton beam radiosurgery/radiation therapy for uveal melanoma.

I. April 1, 1996, for linear accelerator radiosurgery/radiation therapy for arteriovenous malformations and acoustic neuromas.

J. April 26, 1996, for proton beam radiosurgery/radiation therapy for prostate cancer.

K. October 1, 1997, for gamma knife radiosurgery/radiation therapy for high grade gliomas (glioblastoma multiforme, anaplastic astrocytomas).

L. January 1, 1998, for extracranial stereotactic radiosurgery/radiation therapy for lung carcinoma.

M. The date of FDA approval for frameless stereotaxy.

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